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AN ANNOTATED BIBLIOGRAPHY ON URBAN GAMES

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Table of Contents

	<u>Page</u>
I. Introduction.....	1
II. A. Books about Simulations and Games.....	3
B. Bibliographies and References about Simulations and Games.....	3
III. A. Reports about Urban Games.....	4
B. Articles about Urban Games.....	5
C. Urban Games.....	7

I. INTRODUCTION

Urban games are designed to provide an understanding of how the urban system functions. As such, these games deal with change and processes. This change may concern land development options -- typical of the earlier studies -- or the way in which rural migrants enter into the city's mainstream, which is characteristic of the games now being developed. In any event, urban games use stereotypes to portray the principal different types of participants in the urban scene. They also abstract from reality by reducing the time dimension from a year or so to an hour or two and by miniaturizing the city or region to a board or other visual device.

Urban games generally involve role playing and situations of conflict, strategy and collusion. The use of influence or power and the reallocation of resources are common to most games. Computers are sometimes used in these games to expedite the play by handling the record-keeping chore. Usually the players are students or public administrators; in either case they are persons who are attempting to learn about the dynamics and interrelationships of urban life.

The field of urban games is less than a decade old. It certainly has yet to reach maturity. For this reason this bibliography should be considered to be an introduction to, or progress report of, the subject rather than an examining and definitive review of it.¹ Typically a game is developed and an article is written describing either the evolution of the game or its impact on the players. Then a report or book is compiled comparing and analyzing the advantages and disadvantages of various games.

At present there are no books in print on urban games and therefore we have included three books which provide a survey and orientation to the entire field of gaming and simulation, of which urban gaming is but a small part.² We then offer several general bibliographies and references so that the interested reader may know where to look if he intends to pursue the topic further. The next section is concerned with reports on urban games and this is followed by a review of articles on the subject. The concluding section presents a list of urban games and provides a description of these, as well as information on their cost and where they may be obtained.

A number of persons and agencies assisted in the compilation of this bibliography and mention should be made of the contributions of Professor Mark Heyman, Professor Richard Meier, Professor Allan Feldt and Miss Amy Fine. Also information about urban games was gleaned from various editions of "Simulation and Games" -- an international journal published by Sage Publications -- and the "Occasional Newsletter About Simulation Games," which is edited by R. Gary Shirts and published by the Western Behavioral Sciences Institute of La Jolla, California. These two publications provide an excellent introduction to the general field, as well as a way in which to keep up with its current events. The interested reader is advised to consult these two periodicals and cautioned that a subsequent edition of this bibliography on urban games may be necessary in the near future. Such a revision of this effort will be due to the rapid proliferation of the field, which perforce will make the following listings incomplete, if not outdated.

¹ This bibliography, for example, supplements CPL Exchange Bibliography #181 which is an overview of the field since this bibliography is limited to urban games, is annotated and furnishes information on the games themselves.

² Two books on urban gaming are in the process of preparation. One of these by Allan Feldt will be published by the Free Press during 1971. It will be concerned with the Community Land Use Game. The other, by John Taylor of the University of Sheffield in England, is expected to provide an excellent review of the many different works of gaming as well as to present his own research on land development games.

II. A. BOOKS ABOUT SIMULATIONS AND GAMES

SERIOUS GAMES. Clark C. Abt. New York: The Viking Press, 1970. \$5.95.

Surveys the field of gaming in government and industry, in physical and social sciences, and in occupational choice and training. An appendix presents four games in international relations, educational planning and administration, and elementary computations.

SIMULATION AND SOCIETY. John R. Raser. Boston: Allyn and Bacon, Inc., 1969. \$2.95.

An overview of simulation and gaming as applied to the social sciences. An introductory text which surveys the intellectual and historical roots of the subject and presents games from a wide variety of fields.

SIMULATION GAMES IN LEARNING. Sarrane Boocock and E. O. Schild. Beverly Hills, California: Sage Publications, 1968.

Includes a list of six major centers involved in research and development of games.

II. B. BIBLIOGRAPHIES AND REFERENCES ABOUT SIMULATIONS AND GAMES

A BASIC REFERENCE SHELF ON SIMULATION AND GAMING. Eric Project. Palo Alto: Stanford University, 1970.

An annotated listing of types of games and simulations, including an invaluable listing of centers of activity and professional organizations in this field.

BIBLIOGRAPHY OF SIMULATIONS: SOCIAL SYSTEMS AND EDUCATION. Roland Werner and Joan Werner. La Jolla, California, 1150 Silverado Street, Western Behavioral Sciences Institute.

Composed of more than 1,000 entries from 19 journals (1957 to 1968).

GAMING TECHNIQUES FOR CITY PLANNING. Barbara Thornton. Council of Planning Librarians, Post Office Box 229, Monticello, Illinois, 61856.

A recent comprehensive overview of the subject which complements this bibliography.

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INSTRUCTIONAL SIMULATION SYSTEMS: AN ANNOTATED BIBLIOGRAPHY. Paul Twelker. Corvallis, Oregon: Continuing Education Publications, 100 Waldo Hall, Oregon State University. \$6.75.

An important reference book in the field.

SELECTED BIBLIOGRAPHY OF SIMULATIONS AND RELATED SUBJECTS. James Wilson and D. E. Adams. Department of Social Science, Kansas State College of Pittsburg, Pittsburg, Kansas.

This bibliography is divided into nine sections including: military and war games, political games, international relations simulation, and business and management simulation. The urban simulation category has 17 entries.

SOCIAL SCIENCE INSTRUCTIONAL SIMULATION SYSTEMS: A SELECTED BIBLIOGRAPHY. John L. Taylor. Sheffield, England: University of Sheffield, 1969.

Suriss Project Paper No. 4. Almost 500 entries encompassing the fields of business and management studies, geography, teacher training, and urban and regional studies. Twenty-two other bibliographies are also mentioned.

THE VARIETIES OF SIMULATION: A REVIEW AND BIBLIOGRAPHY. Forrest Pitts. Regional Science Research Institute, G.P.O. 8776, Philadelphia, Pa.

A 1,400-item listing, which is No. 4 in a bibliographic series.

III. A. REPORTS ABOUT URBAN GAMES

AN EVALUATION OF CLUG AS A TEACHING DEVICE. Margaret Monroe. Ithaca: Cornell University, unpublished Master's Thesis, 1968.

Compares gaming with conventional teaching and concludes that the former is preferred in learning processes and the latter is more effective to teach facts.

SELECTED URBAN SIMULATIONS AND GAMES. Mark Nagelberg and Dennis Little. Middletown, Connecticut: Institute for the Future, 1970.

A report of 19 simulation projects, including five games and a unique geneologic chart.

III. B. ARTICLES ABOUT URBAN GAMES

THE APPLICATION OF HEURISTIC GAMING TO URBAN PROBLEMS. Richard D. Duke and Bart Burkhalter. Institute for Community Development and Services, East Lansing, Michigan State University Press, 1966.

Reviews and reports on the use of M.E.T.R.O. for public administrators.

AN ENVIRONMENTAL GAMING SIMULATION LABORATORY. Peter House and Phillip D. Patterson. In Journal of the American Institute of Planners, Vol. 35, No. 6 (1969), pp. 383-388.

Describes the construction of City I, and City II, and explains how they may be played and extended to encompass larger systems.

"GAME" PROCEDURE IN THE SIMULATION OF CITIES. Richard L. Meier. In The Urban Condition, Leonard J. Duhl, ed. New York: Basic Books, 1963, pp. 348-354.

An overview of the considerations and problems encountered in designing urban games.

GAMING SIMULATION FOR URBAN PLANNING. Richard D. Duke and Richard L. Meier. In Journal of the American Institute of Planners, Vol. 32, No. 1 (1966), pp. 3-17.

An introduction to the field, featuring a discussion of METROPOLIS and distinguishing between gaming models and computerized hybrid forms of simulation.

GAMING SIMULATION IN URBAN RESEARCH. Richard D. Duke. East Lansing, Michigan State University, 1964.

Excerpt of doctoral dissertation: "Gaming-Simulation Studies in Urban Land Use Allocation," which introduced METROPOLIS.

GAMING URBAN SYSTEMS. Richard D. Duke. In Planning, 1965, American Society of Planning Officials, 1313 East Sixtieth Street, Chicago, Illinois, pp. 293-300.

Presents both a philosophical rationale and criteria for urban gaming, as well as reviewing the structure of some of the better known urban games.

INSTRUCTIONAL SIMULATION OF URBAN DEVELOPMENT, A PRELIMINARY REPORT. John L. Taylor and K. R. Carter. In Journal of the Town Planning Institute, Vol. 53, No. 10 (December 1967), pp. 443-447.

Describes the author's operational experience with the Community Land Use Game and with a similar model designed at the University of Sheffield "to broaden and enliven the learning process in urban studies."

A LAND USE GAMING SIMULATION, THE DESIGN OF A MODEL FOR THE STUDY OF URBAN PHENOMENA. John L. Taylor and Richain N. Maddison. In Urban Affairs Quarterly, Vol. 3, No. 4 (June 1968), pp. 37-51.

Describes a British project for the education of undergraduate planners at the University of Sheffield and at Lanchester College of Technology in Coventry. Student reaction, problems in using simulation in urban planning education and some implications for teaching are discussed.

THE GAMING SIMULATION IN URBAN PLANNING. Richard L. Meier. In Planning, 1965, American Society of Planning Officials, 1313 East Sixtieth Street, Chicago, Illinois, pp. 286-293.

Discusses the considerations extent in developing gaming models of known urban phenomena and notes that new towns offer a fertile field for innovative model building precisely because our knowledge of them is limited.

THE M.E.T.R.O. URBAN GAME-SIMULATION, AN EXPERIMENT IN IN-SERVICE TRAINING. Richard D. Duke. In Proceedings of the Fourth Annual Conference on Urban Planning Information Systems and Programs, Berkeley, California, Institute of Urban and Regional Development, Center for Planning and Development Research, 1966, pp. 142-153.

Describes the M.E.T.R.O. project which is "designed to quickly and efficiently get across long and short run urban processes to laymen, politicians, urban planners and social scientists" via an interlocking and crosscutting set of games and computerized simulation models.

THE NEW GAMESMANSHIP. Ellen Perry Berkeley. In Architectural Forum, Vol. 129, No. 5 (1968), pp. 58-63.

A historical review and survey of field games including interviews with principal game makers and a discussion of their use outside the classroom.

OPERATIONAL GAMING IN PLANNING EDUCATION. Allan G. Feldt. In Journal of the American Institute of Planners, Vol. 22, No. 1 (1966), pp. 17-23.

A general description of the Community Land Use Games is provided, along with an interpretation of its use by student, faculty and professional groups. Suggestions are made for further improvement of planning education games.

SELECTED PAPERS IN OPERATIONAL GAMING. Allan G. Feldt. Miscellaneous Paper No. 5, Center for Housing and Environmental Studies, Division of Urban Studies, Ithaca, Cornell University, 1966.

Includes "Operational Gaming in Planning and Architecture," a paper prepared for the AIA-Architects-Researchers Conference, 1967, and "Gaming Techniques as a Communications Bridge Between Systems Analysis and Public Administration," a paper presented at the annual meeting of the American Association for the Advancement of Science, 1967.

A SYNOPTIC VIEW OF URBAN PHENOMENA: NOTES ON THE USE OF GAMING-SIMULATION TECHNIQUES IN PLANNING EDUCATION. John L. Taylor. In Journal of the Town Planning Institute, Vol. 53, No. 1, pp. 8-10.

Explains the author's project, which is concerned with the "educational aspects of gaming and simulation with reference to the study of urban development."

III. C. URBAN GAMES

ALEA-BLACKBORN/LEYLAND-CHORLEY MODEL. Developed by Institute of Local Government Studies.

Description: Simulates development of a new city and its impact on an existing town which requires rehabilitation. Thirty-eight or more may play the game.

Information and Availability: Institute of Local Government Studies
University of Birmingham
P. O. Box 363
Birmingham 15, England

BLACK-WHITE. Developed by Robert Sommer, Judy Tart and David Popov.

Description: Designed originally to give middle-class whites a taste of the helplessness that comes from living against implacable odds and revised to include the fact that Blacks might become the agents of change while still the victims of discrimination.

Information and Availability: Psychology Today Games
P. O. Box 4762
Clinton, Iowa 52732

BUILD. Developed by OP Associates.

Description: "A role-playing computer game designed to represent the typical situation of extreme deterioration of housing, services, and economic activity in an urban area designated for rapid physical transformation, but with a major emphasis on preservation of community values." Roles include those of business, government and community.

Information and Availability: OP Associates
1812 Spruce Street
Philadelphia, Pennsylvania 19103

CITY I, II. Developed by Peter House.

Description: A computer-aided simulation involving nine teams, seven of which represent city departments, with the remaining two representing the mass media and citizens' groups. During each round the teams elect city officials, make decisions and fill out planning forms; the city council then votes to determine what programs will be implemented; funds are appropriated, and various departments are directed to carry out the program.

Information and Availability: Cost -- \$3.00 for players' manual
Mr. Peter House, Director
Urban Systems Simulations
Washington Center for Metropolitan Studies
1717 Massachusetts Avenue, N.W.
Washington, D.C., 20036

CITIES. Developed by David Popov.

Information and Availability: Psychology Today Games
P. O. Box 4762
Clinton, Iowa 52732

COMMUNITY LAND USE GAME (CLUG). Developed by Allan Feldt.

Description: "CLUG provides players with an understanding of a regional economy as it relates to spatial and topographic locational decisions." For 3 to 15 players who make "highly interdependent decisions concerning real estate development, transportation, taxes, utilities, construction, and building maintenance."

Information and Availability: Cost -- \$125.00 plus shipping
Systems Gaming Associates
246 Updike Road
Ithaca, New York, 14850

COMMUNITY RESPONSE GAME. Developed by Michael Imbar.

Description: Simulates a community beset by a localized natural disaster. Each player must deal with his personal anxiety for family members who may be in peril and at the same time maintain a post which is vital to the community's functioning and overcoming of the disaster.

Information and Availability: Cost -- \$15.00 plus shipping
Mrs. Audry Suhr
c/o Academic Games Associates
3505 Charles Street
Baltimore, Maryland

IMPACT -- A COMMUNITY SIMULATION. Developed by Ronald G. Klietsch.

Description: Impact is a community simulation involving participants as community members. For up to 24 players of junior high school age or older.

Information and Availability: Cost - \$160.00
Instructional Simulations, Inc.
2147 University Avenue
St. Paul, Minnesota 55114

METROPOLIS. Developed by Richard D. Duke.

Description: A computer-assisted, three-phase simulation involving interactions among city administrators, politicians and real estate speculators who are linked by the device of a capital improvement.

Information and Availability: Urban-Regional Research Institute
Michigan State University
East Lansing, Michigan

or

Environmental Systems Laboratory
University of Michigan
Ann Arbor, Michigan

NEW TOWN. Developed by L. John Wilkerson.

Description: A probabilistic land development game for teams of 2 to 5 players, featuring 9 types of private development and up to 11 types of public development. Dice rolls determine the type and size of development to occur.

Information and Availability: Cost -- \$75.00 (first game)
\$50.00 (2-4 games)
15% discount on 5 or more games
New Town
Box 95
Convent Station, New Jersey 07961

PLANNING OPERATIONAL GAME EXPERIENCE (P.O.G.E.). Developed by Frances H. Hendricks.

Description: An academically used game dealing with interaction of planners and real estate speculators, with players choosing competing strategies to determine the outcome of requests for variances.

Information and Availability: Professor Frances H. Hendricks
Department of City and Regional Planning
California State Polytechnic College
San Luis Obispo, California

PTRC LAND USE/TRANSPORTATION SIMULATION.

Description: A simulation of the relationships between land use and transportation. At least 13 players and three or four days are needed to complete the game.

Information and Availability: Cost -- \$95.00 Two to three months
waiting time for delivery
of game.
Planning and Transport Research and
Computation Co., Ltd.
40 Grosvenor Gardens
London SW 1, England

REGION I, II, Developed by Peter House.

Description: A computer-assisted model of urban development using eight teams making economic, social and political decisions about their area in one-hour rounds, each round representing one year. Income classes are delineated, making complex employment requirements for business and creating variable voting power.

Information and Availability: Cost -- \$3.00 for players manual
Mr. Peter House, Director
Urban Systems Simulations
Washington Center for Metropolitan Studies
1717 Massachusetts Avenue, N.W.
Washington, D.C. 20036

SITTE. Developed by Western Behavioral Sciences Institute.

Description: Twelve proposals are placed before five interest groups (business, disenfranchised, government, taxpayers association, and park and tree committee). Each group has means of influence and communication and can block passage of unfavorable proposals.

Information and Availability: Cost -- \$3.00 for a sample set
\$35.00 for a 25-student kit
SIMILE II
1150 Silverado
La Jolla, California 92307

SLUDGE. Developed by URBANDYNE.

Description: From 15 to 25 people take roles of factory owners, experts, politicians, and the "man on the street" as they confront the problems of air and water pollution in a large metropolitan area.

Information and Availability: Cost -- \$95.00
URBANDYNE
5659 South Woodlawn Avenue
Chicago, Illinois 60637

TRACTS. Developed by Instructional Simulations, Inc.

Description: Focuses on problems of core city land-use dynamics involved in an urban renewal program with four sectors: industry, private land development, public housing and planning commission. For 8 to 48 players of junior high school age or older.

Information and Availability: Cost -- \$28.50
Instructional Simulation, Inc.
2147 University Avenue
St. Paul, Minnesota 55114

URBAN DYNAMICS. Developed by URBANDYNE.

Description: Twelve to 20 people are divided into four teams representing different economic and racial groups in the life of the city. There are two versions: one tracing the historical development of cities, the other exploring the future possibilities for urban areas.

Information and Availability: Cost -- \$95.00
URBANDYNE
5659 South Woodlawn Avenue
Chicago, Illinois 60637

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